

GETTING THE MOST LIFE OUT OF OLDER SWITCHGEAR

End of life decisions / Life extension and Cannibalism – which one?

*To assist clients who are considering replacing switchgear High Voltage Solution (HVS) has developed an on-site audit process called **Risk Based Inspection program (RBI)** which combines a number of disciplines to rank clients' switchgear into low / medium / high risk groups. Note: this can be also be applied to cables.*



An example of an installation where a Risk Based Inspection program (RBI) was not put in place.

A certain amount of nervousness is still present within the industry (particular the mining sector) on whether to spend capital on replacing aged switchgear (which is perceived as an asset that returns nothing to the shareholder) or just replace the switchgear based upon other factors such as the number of operations / availability of spare parts / contractors with knowledge to correctly maintain asset / ability to open or close remotely and SCADA interface.

DOING NOTHING IS NOT AN OPTION

Having independent advise on *End of life decisions / Life extension and Cannibalism* will assist the asset owner in making the right technical and business decisions when considering replacing switchgear or underground cables.

By having a *Risk Based Inspection program (RBI)* in place using advanced non-invasive tools like On-Line Partial Discharge & infrared camera inspection, along with extensive experience, it is possible to rank switchgear into risk groups. In summary a list of approximately 27 areas are looked at, depending upon type of switch concerned.

REFLECT ACTUAL WORKING CONDITIONS


One of the cornerstone's to High Voltage Solution.Com is its ability to safely carry out testing of high voltage cables and switchgear

while the installation is in service. Using this methodology allows the high voltage asset to be tested / surveyed under real operating conditions, rather than simulated off-line testing where the results do not reflect actual working conditions.

End of life – Circuit Breakers that have arrived at the far end of the “bath tub curve” or in the “wear out” region (sudden increase in failure rate) or where a gradually increasing failure rate has reached an unacceptable level.

Life Extension – The extension of the life of old circuit breakers has to consider a number of technical and organizational aspects. Fault rating / number of operations / availability of spare parts / contractors with knowledge to correctly maintain asset / ability to open / close remotely / SCADA interface.

Cannibalism – The source of disused parts has now dried up and we now rely upon rebuilding original parts or shifting circuit breaker trucks from a lightly loaded feeder to a feeder that has a high load in a bid to extend the life of the substation.

By having this forward information on the condition of your assets it is possible to stagger capital projects / alter your maintenance program to suit duty change and ultimately reduce outages. 

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